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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/766,403

01/27/2004

Luiz Belardinelli

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EXAMINER

CRANE, LAWRENCE E

ART UNIT

PAPER NUMBER

1623

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/766,403	BELARDINELLI ET AL.	
	Examiner	Art Unit	
	L. E. Crane	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/30/04; 3/4/05; 2/21 & 4/11/06: 4 IDSs.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4 documents</u> . | 6) <input type="checkbox"/> Other: _____ |

The Abstract of the Disclosure is objected to because it does not meet the requirement of the MPEP for US application. Correction is required. See MPEP 608.01(b).

The instant abstract is too brief because it fails to identify the particular active ingredient(s) required to carry out the instant claimed process.

Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts, compounds or compositions, the general nature of the compound or composition should be given as well as its use, e.g., "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary. Complete revision of the content of the abstract is required on a separate sheet.

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

No claims have been cancelled, no claims have been amended, the disclosure has not been amended, and no new claims have been added as of the date of this Office action. Four Information Disclosure Statements (4 IDSs) filed August 30, 2004*, March 4, 2005, February 21, 2006 and April 11, 2006 have been received with all cited references and made of record. *A copy of this IDS was supplied by applicant in order to make up for its absence from the scanned database.

Claims **1-61** remain in the case.

Note to applicant: when a rejection refers to a claim X at line y, the line number "y" is determined from the claim as previously submitted by applicant in the most recent response including ~~lines deleted by line through~~.

Claims **1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55 and 59-61** are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one of ordinary skill in the art to which it pertains, or with which it

is most nearly connected, to make and/or use the invention; the scope is excessive in view of the disclosed enabling exemplifications.

The definitions of active ingredients in claims **1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55 and 59-61** are directed to a vast number of chemical compounds which have not been described in the instant disclosure in a manner permitting the ordinary practitioner to have the guidance necessary to make a very large proportion of the compounds encompassed. Examiner finds only **CVT-3033 and CVT-3146** as compounds described prior to the "Examples" section and only the latter has been tested to determine how to apply this compound in the method of imaging disclosed and claimed herein. Therefore, the scope of the claims listed above wherein the functional term "A_{2A} receptor agonist" is found in independent or dependent claims is deemed to be excessive because the noted term is clearly functional and therefore encompasses all compounds with the noted activity without identifying the particular compounds encompassed.

Claims **1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55 and 59-61** are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one of ordinary skill in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The fundamental issue here is whether practicing the full scope of the instant invention is possible without undue experimentation. As provided for in *In re Wands* (858 F.2d 731, 737; 8 USPQ 2d 1400, 1404 (Fed Cir. 1988) the minimum factors to be considered in determination of whether a conclusion of "undue experimentation" is appropriate are as follows:

A. The breadth of the claims: the claims are directed to administration of any compound which has an agonist effect in binding at an A_{2A} receptor in a human host in need of examination of cardiac blood circulation using a radionuclide as a contrast agent wherein the agonist is specified for some claims as the compound "CVT-3164."

B. The nature of the invention: the invention is directed to pharmaceutical compositions containing an "A_{2A} receptor agonist" sometimes specified as CVT-3164, to a method of selective cardiac vasodilation, and to a method of cardiac imaging in the presence of a radionuclide.

C. The state of the prior art: the prior art includes numerous references which anticipate the instant claimed subject matter.

D. The level of one or ordinary skill: one of ordinary skill should be expected to have a high level of expertise in light of the numerous references which anticipate the instant disclosures wherein the compounds CVT-3164 and CVT-3033, but would be expected to have a much lower level of expertise in the vast area of subject matter encompassed by the term "A_{2A} receptor agonist."

E. The level of predictability in the art: the level of predictability is very high when the compounds CVT-3164 and CVT-3033 are the agonists, but very low when the other possible agonists are the compounds to be administered as a pharmaceutical composition.

F and G. The amount of direction provided by the inventor and the existence of working examples: the inventor has clearly described how to administer CVT-3164, but has not described how to administer any other agonist in the claimed method of imaging.

H. The quantity of experimentation needed to make or use the invention based on the content of the disclosure is deemed to be excessive for the claims which are directed to "A_{2A} receptor agonists" in view of the absence of adequate guidance required by one of ordinary skill to determine how to practice the instant claimed invention with compounds other than CVT-3164 and CVT-3033.

Claim 44 is objected to because of the following informalities:

In claim 44 at the end of line 2, the term "m" appears to be a misrepresentation of the term -- mg --.

Appropriate correction is required.

Claims 8, 13, 18, 23, 28, 36 and 56 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 8, 13 and 18 the term "buffer" is directed to subject matter which is not provided for in parent claim 4 wherein the only species is "borate buffer," thereby rendering

the noted claims lacking in proper antecedent basis. In order to accommodate the disclosure of the additional subject matter implied by the term "buffer," examiner suggests that each of the noted claims needs to be amended to include the term -- further comprising -- in order to give notice of the presence of expanded subject matter coverage in a dependent claim.

Alternatively, since the term "buffer" appears in claim 3, applicant may elect to change claim dependency. And lastly, applicant is respectfully requested to eliminate the confusion caused by the mention of "buffer" in claim 3 as part of the "*liquid carrier*" and "borate buffer" in claim 4 as part of the "*co-solvent*," wherein the italicized terms appear in claim 1.

In claim 23 the term "iv bolus" appears to include a technical abbreviation for -- intravenous --. Applicant is respectfully requested to define such abbreviations at their first occurrence in a independent claim or a dependent claim following an independent claim: e.g. -- 3'-deoxy-3'-azidothymidine (AZT) --. See also claims 28, 36 and 56 wherein the same abbreviation first appears following an independent claim.

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam*, 686 F. 2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir 1985); and *In re Goodman*, 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. §1.78(d).

Effective January 1, 1994, a registered attorney or agent or record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. §3.73(b).

Claims 21-61 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over

claims *1-11* of copending Application No. **11/253,322**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method of imaging and the alleged active ingredient (CVT-3164) are directed to substantially overlapping subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims **21-61** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims *1-30* of copending Application No. **10/629,368**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method of treatment and the alleged active ingredients are directed to substantially overlapping subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims **21-61** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims *11, 14-27, 29-30, 34 and 36-37* of copending Application No. **11/070,768**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method of treatment and the alleged active ingredients are directed to substantially overlapping subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

“A person shall be entitled to a patent unless -

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.”
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.”
- (e) the invention was described in

(1) an application for patent described under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application filed under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a)."

Claims **1, 3-5 and 16-19** are rejected under 35 U.S.C. §102(b) as being anticipated by **Zablocki et al. '807** (PTO-1449 ref. A12).

Applicant is referred to claims **1 and 32-33** wherein adenosine agonists with A_{2A} receptor selectivity are disclosed as part of a pharmaceutical composition. The compound also known as CVT-3033 may be found at column 20, lines 40-50.

The **CV Therapeutics '778** reference (PTO-1449 ref. B3) is the PCT equivalent to the above reference and anticipates for the same reasons.

Claims **1, 3-5 and 16-19** are rejected under 35 U.S.C. §102(b) as being anticipated by **Hutchison '697** (PTO-1449 ref. A2).

Applicant is referred to claims **1 and 14** wherein the well known in the art A_{2A} receptor agonist, CGS-21680, is disclosed as part of a pharmaceutical composition.

Claims **1-61** are rejected under 35 U.S.C. §102(e) as being anticipated by **Zablocki et al. '567** (PTO-1449 ref. A13).

Applicant is referred to claims **1, 8, 10 and 11-13** wherein the compound, also known as CVT-3164, is disclosed as part of a pharmaceutical composition and as having utility in the imaging of mammalian cardiac circulatory systems.

See also **CV Therapeutics '779** (PTO-1449 ref. B2) which is the PCT equivalent to the '567 reference and also anticipates the instant noted claims for the same reasons.

Claims **21, 25-27, 32-46, 48-55 and 59-61** are rejected under 35 U.S.C. §102(b) as being anticipated by **Verani '317** (PTO-1449 ref. A11).

The instant methods are anticipated by the noted reference at column 2, lines 54-67 and the continuation into column 3, column 3, lines 43-67, the EXAMPLES at columns 5-10, and by claims **1-3 and 15-23** wherein the instant methods are disclosed.

Claims **1-61** are rejected under 35 U.S.C. §102(a) and/or (b) as being anticipated by **Gao et al.** (PTO-1449 ref. **C2**).

Applicant is referred to the reference at its abstract wherein both CVT-3033 and CVT-3164 are disclosed as having the desirable properties of inducing short term coronary vasodilation during myocardial imaging in the presence of radionuclides. The copy of the reference indicates a publication date of July, 2001, which without more complete date information is deemed to be sufficient to render the instant claimed subject matter anticipated.

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

“A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”

Claims **1-20** are rejected under 35 U.S.C. 103 as being unpatentable over any one of **Zablocki et al. '807** (PTO-1449 ref. **A12**); **CV Therapeutics '778** reference (PTO-1449 ref. **B3**); **Hutchison '697** (PTO-1449 ref. **A2**); **Zablocki et al. '567** (PTO-1449 ref. **A13**); **CV Therapeutics '779** (PTO-1449 ref. **B2**); **Verani '317** (PTO-1449 ref. **A11**); and **Gao et al.** (PTO-1449 ref. **C2**).

The instant claims are directed to pharmaceutical compositions wherein the active ingredient is an adenosine A_{2A} receptor agonist including the compound known as CVT-3164 and all equivalents thereof.

Applicant is referred to *Ex Parte Billman*, 71 USPQ 253 (POBA 1946) wherein it is stated that “[whether]...the effective ingredient ... is carried by a solvent or a diluent does not change the effective character of the compound.” This view is further supported by the more recent decision in *In re Rosicky*, 125 USPQ 341 (CCPA 1960) wherein it is stated that “A known compound in association with a carrier is not a patentable composition.” Each of the

above noted references discloses one or more A_{2A} receptor agonists and pharmaceutical compositions containing same. See the anticipation rejections above wherein specific locations for these disclosures have been enumerated for each of the cited references.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the disclosure of an A_{2A} receptor agonist in each of the above references to the preparation of several different pharmaceutical compositions each of which renders obvious the instant claimed subject matter.

Therefore, each and every one of the instant claimed pharmaceutical compositions would have been obvious to one of ordinary skill in the art having the above cited references before him at the time the invention was made.

Claims **21-61** are rejected under 35 U.S.C. §103(a) as being unpatentable over **Zablocki et al. '567** (PTO-1449 ref. A13).

The instant claims are directed to methods of selective cardiac vasodilation for the purpose of enhancing the imaging of cardiac circulation by administration of an A_{2A} receptor agonist including the compound CVT-3164.

Zablocki et al. '567 (PTO-1449 ref. A13) discloses in claims **1, 8, 10 and 11-13** and in associated textual explanations that the compound, also known as CVT-3164, is part of a pharmaceutical composition and as having utility in the imaging of mammalian cardiac circulatory systems.

Zablocki et al. '567 does not expressly disclose all of the specific details of the administration of pharmaceutical compositions containing CVT-3164 found in the instant claims.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to conduct routine experimentation to determine the optimal conditions of administration of a CVT-3164-containing compositions to produce the best possible radionuclide-based cardiac circulatory imaging.

Therefore, the instant claimed method of inducing selective myocardial vasodilation for the purpose of enhancing the imaging of cardiac circulation would have been obvious to one of

ordinary skill in the art having the above cited reference before him at the time the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. §103(c) and potential 35 U.S.C. §§102(f) or (g) prior art under 35 U.S.C. §103(a).

Papers related to this application may be submitted to Group 1600 via facsimile transmission (FAX). The transmission of such papers must conform with the notice published in the Official Gazette (1096 OG 30, November 15, 1989). The telephone number to FAX (unofficially) directly to Examiner's computer is 571-273-0651. The telephone number for sending an Official FAX to the PTO is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner L. E. Crane whose telephone number is **571-272-0651**. The examiner can normally be reached between 9:30 AM and 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. S. Anna Jiang, can be reached at **571-272-0627**.

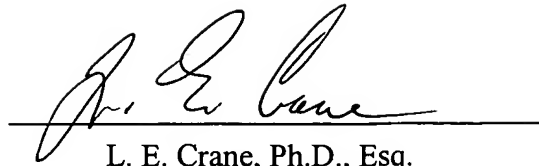
Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is **571-272-1600**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see < <http://pair-direct.uspto.gov> >. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

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LECrane:lec
05/22/2006

A handwritten signature in black ink, appearing to read "L. E. Crane", is written over a horizontal line.

L. E. Crane, Ph.D., Esq.

Patent Examiner

Technology Center 1600